

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Integrated An integrated thermoelectric module (10) formed of comprising:

a set of thermoelectric elements, each of which is made of P type and N type conductor and/or semiconductor elements electrically connected in series and thermally connected in parallel,

wherein said thermoelectric elements are electrically connected in series and/or in parallel and thermally connected in parallel, and are assembled on flexible supports (11) made of a polymeric material, the flexible supports being connected to the respective heat exchangers (12),

characterized in that the wherein said thermoelectric elements are distributed in the interior of the said integrated thermoelectric module (10) so as to geometrically harmonize heat transferred from the said integrated thermoelectric module (10) with heat exchanged by the heat exchangers (12) thus making the temperature distribution on said the heat exchangers (12) as uniform as possible, in order to maximize the efficiency of the said integrated thermoelectric module (10) by reducing the a thermal head between its two opposite faces.

2. (Currently Amended) Integrated The integrated thermoelectric module according to claim 1, characterized in that wherein, in order to connect said integrated thermoelectric module (10) to the heat exchangers (12) a thermally conductive material of phase conversion type (13) is used having high thermal conductivity and which is capable of absorbing, without damages damage to said integrated thermoelectric module, possible irregularities of the thickness of the

said integrated thermoelectric module-(10) due to height tolerances of ~~the~~said thermoelectric elements.

3. (Currently Amended) Integrated ~~The integrated~~ thermoelectric module according to claim 1, ~~characterized in that in-~~wherein, in order to connect said integrated thermoelectric module-(10) to the heat exchangers,-(12)-a thermally conductive graphite material is used, laid either on one face only or on both faces of ~~the~~ said integrated thermoelectric module-(10).

4. (Currently Amended) Integrated ~~The integrated~~ thermoelectric module according to claim 1, ~~characterized in that its-~~wherein a base of said integrated thermoelectric module has a rectangular shape-, for instance a square shape.

5. (Currently Amended) Integrated ~~The integrated~~ thermoelectric module according to claim 1, ~~characterized in that its-~~wherein a base of said integrated thermoelectric module has a curvilinear peripheral shape-, for instance a circular shape.

6. (Currently Amended) Integrated ~~The integrated~~ thermoelectric module according to claim 1, ~~characterized in that~~wherein ~~the~~ said thermoelectric elements are uniformly distributed inside ~~the~~ said integrated thermoelectric module-(10).

7. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, characterized in that wherein the said thermoelectric elements are non-uniformly distributed inside the said integrated thermoelectric module-(10).

8. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, characterized in that said module is associated with wherein the heat exchangers having have a planar connection surface.

9. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, characterized in that said module is associated with wherein the heat exchangers having have a concave and/or convex connection surface.

10. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, characterized in that said module is associated with wherein the heat exchangers having have a cylindrical shape with a polygonal cross section.

11. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, characterized in that said module is associated with wherein the heat exchangers having have a cylindrical shape with a circular cross section.

12. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, ~~characterized in that~~ wherein the heat exchangers are finned.

13. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, ~~characterized in that~~ wherein the heat exchangers may be touched by gaseous or liquid fluids as well as by fluids that are bound to phase conversion.

14. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, ~~characterized in that~~ wherein the heat exchangers may be touched by fluids bound to phase conversion.

15. (Currently Amended) ~~Integrated~~ The integrated thermoelectric module according to claim 1, ~~characterized in that~~ wherein the heat exchangers avail themselves of the latent heat of phase conversion of a fluid.

16. (New) The integrated thermoelectric module according to claim 4, wherein the rectangular shape comprises a square shape.

17. (New) The integrated thermoelectric module according to claim 5, wherein the curvilinear peripheral shape comprises a circular shape.